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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,482	02/12/2004	Martin Devenney	SMX 3159.1 (2003-008R1)	2309
321	7590	10/11/2007	EXAMINER	
SENNIGER POWERS			NGUYEN, CAM N	
ONE METROPOLITAN SQUARE				
16TH FLOOR			ART UNIT	PAPER NUMBER
ST LOUIS, MO 63102			1793	
			NOTIFICATION DATE	DELIVERY MODE
			10/11/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

Office Action Summary

Application No.

10/777,482

Applicant(s)

DEVENNEY ET AL.

Examiner

Cam N. Nguyen

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/19/07 (an election).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-16, 18-23, 31-34, 36, 38, 39, 42, 44-46, 63, 64, 68-91 and 96-101 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 91 and 96-101 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08).
Paper No(s)/Mail Date <u>originally filed</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims withdrawn from consideration are 1-7, 10-16, 18-23, 31-34, 36, 38, 39, 42, 44-46, 63, 64 and 68-90.

DETAILED ACTION

Response to Election/Restrictions

1. Applicant's election without traverse of Group I, claims 91 & 96-101, in the reply filed on July 19, 2007 is acknowledged.

In addition, applicants elected "Carbon" for the particulate support and "platinum, copper, and chromium" for the metal alloy for examination.

Status of Withdrawn Claim(s)

2. Claims 1-7, 10-16, 18-23, 31-34, 36, 38-39, 42, 44-46, 63-64, & 68-90 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention(s), there being no allowable generic or linking claim. Election was made without traverse in the reply filed on July 19, 2007.

Claim Objections

3. Claim 91 is objected to because of the following informalities:

A. In line 8-9, "a loading of deposits on the particulate support of at least about 20 weight percent" should be changed to recite --wherein the loading of the deposits on the particulate support is at least about 20 weight percent--.

B. In line 10, "that is" should be deleted and replace thereof with --of--.

C. In line 14, --wherein—should be inserted before "the plurality".

Appropriate correction is required.

Application/Control Number: 10/777,482

Page 3

Art Unit: 1754

Claim Rejections - 35 USC § 112 (2nd Paragraph)

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 91 & 96-101 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the claim recites "the metal alloy comprises a non-noble metal"; however, applicants elected platinum, copper, and chromium as the metal alloy in applicants' response to the restriction requirement. Platinum is clearly a noble metal. Thus, it is unclear as to what applicants intend.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 91 & 96-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bocarsly et al., "hereinafter referred to as Bocarsly '851", (US Pat. 6,932,851 B2).

Bocarsly '851 discloses metal alloy nanoparticles and thin films composed of metal alloy nanoparticles having particle size ranging from about 3 nm to 100 nm (see col. 1- col. 3, ln. 57-64). Metal alloy nanoparticles can be nanoparticle alloys of palladium-cobalt, palladium-

Application/Control Number: 10/777,482

Page 4

Art Unit: 1754

platinum, and platinum-cobalt, as well as other metals may be produced (see col. 3, ln 60-64).

Suitable substrates including carbon (see col. 6, ln 1-4).

With respect to the limitation on "loading of the deposits on the particulate support", while Bocarsly '851 does not disclose such amounts, it would have been obvious to one of ordinary skill in the art the time the invention was made to have predetermined and optimize such metal amounts in order to achieve an effective support metal alloy powders, because of In re Boesch.

Bocarsly '851 does not disclose the deposit size distribution as required in the instant claims. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have control the particle size and distribution of the metal alloy nanoparticles in Bocarsly '851 in order to achieve an effective supported metal alloy powders product in view of the teaching within the reference itself, which teaches that the particle size and distribution of the nanoparticles can be controlled by lowering the processing temperatures, etc. (see col. 5, ln 12-49).

8. Claims 91 & 96-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mao et al., "hereinafter referred to as Mao", (PG Pub. No. US 2003/0104936 A1).

Mao discloses a supported catalyst comprising catalyst metal nanoparticles having an average particle size of 3 nm or less supported on support particles, wherein the weight of catalyst metal particles in the supported catalyst is 30% or more of the weight of the supported catalyst (see page 7, claim 1). The support particles comprise carbon (see page 8, claim 9). Any suitable catalyst metals and alloys and support materials can be used to form supported metal

Application/Control Number: 10/777,482

Page 5

Art Unit: 1754

alloy catalysts (see page 2, paragraph [0030] & [0031]). See also page 2 of the reference for more details regarding particle sizes and metal amounts.

Mao does not disclose the deposit size distribution as required in the instant claims.

However, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have control the particle size and distribution of the metal alloy nanoparticles in Mao in order to achieve an effective supported metal alloy powders product because it is a result effective variable, in view of *In re Boesch*.

Citations

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form prepared.

Conclusion

10. Claims 1-8 are pending. Claims 91 & 96-101 are rejected. Claims 1-7, 10-16, 18-23, 31-34, 36, 38-39, 42, 44-46, 63-64, & 68-90 are withdrawn due to nonelected (distinct) invention(s).

No claims are allowed.

Contacts

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M-F, 9:00 AM - 6:30 PM, at alternative work site.

Application/Control Number: 10/777,482

Page 6

Art Unit: 1754

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-272-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn

October 01, 2007/Cam N. Nguyen/

Primary Examiner

Art Unit: 1754